ChatGPT Prompt Template for Building Spreadsheets.

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The goal of this template is to help users frame their Excel issues clearly and provide all necessary context so that solutions are accurate and effective.

Prompt Template for Building Spreadsheet Solutions.

[Items in brackets are optional]

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1. **General Task Overview**

    Task Description:
    Clearly describe the overall task or problem you're encountering in Excel. Be specific about the action or result you're trying to achieve.

Example: I need to create a formula that calculates bonuses based on monthly sales, with different percentage bonuses applied to different sales ranges.

- **Goal Clarification (Directional Prompting)**:
    Provide the ultimate outcome or direction for the solution. This sets a clear objective and focuses the solution in the right direction.

Example: I want to know which formula can calculate bonuses using a tiered system: 5% for sales up to $1,000, 10% for sales between $1,000 and $5,000, and 15% for sales above $5,000.

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2. **Dataset Context and Structure.**

- **Dataset Description**:
    Give a detailed description of your dataset, including column headers, number of rows, data types, and any relevant cell ranges.

Example: My dataset contains three columns: "Employee Name" (A), "Monthly Sales" (B), and "Sales Date" (C). Data runs from row 2 to row 100, with total sales amounts in column B.

- **Conditions and Constraints**:
    Mention any specific rules or conditions that apply to your data, such as specific

ranges to filter, ignored data, or conditions (this can help Chain-of-Thought problem-solving).

Example: Sales less than $500 should be excluded from the bonus calculation. Only calculate bonuses for sales recorded in 2023.

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3. [Advanced Prompting Techniques:]

[Few-Shot Examples for Guidance]

Provide a few examples of how the problem should be solved in different situations to guide the prompt towards a solution. Few-shot prompting helps refine the type of solution generated.

Example (for a tiered bonus system):

1. If "Monthly Sales" = $500, bonus should be 5% of $500.

2. If "Monthly Sales" = $2,000, bonus should be 10% of $2,000.

3. If "Monthly Sales" = $10,000, bonus should be 15% of $10,000.

[Chain-of-Thought (CoT) Reasoning]

Ask for step-by-step reasoning in the solution to make sure the logic is broken down clearly and correctly. This is helpful for complex problems like nested formulas, data analysis, or macros.

Example: Can you explain the steps for creating a formula that calculates the total commission based on the sales range, starting with how to identify which range the sales fall into?

[Tree-of-Thought (ToT) Exploration]

Ask for multiple approaches or alternative paths to solve the problem to ensure robustness. This technique explores multiple ways to approach a problem to increase the likelihood of finding the best solution.

Example: Could you explore different approaches to calculate bonuses?

- Option 1: Use a single formula for all calculations.

- Option 2: Use a combination of helper columns to break down the steps.

o   Option 3: Automate the calculation with VBA.

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4. **Specific Excel Tools, Functions, or Features**

- **Excel Tools Involved**:
  Mention any specific Excel functions or features you think may be involved (e.g., VLOOKUP, INDEX/MATCH, Power Query, VBA).

Example: I believe the IF() function or possibly a nested IF with AND() could be useful, but I'm unsure how to set up the tiering system. Alternatively, a SUMIFS might be required.

- **Formula or VBA vs. Power Query**:
  Clarify the preferred method if you have one (e.g., if you prefer using formulas, VBA macros, or Power Query).

Example: I would like a formula-based solution, but I'm open to VBA if it simplifies things.

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5. <u>Expected Outcome (Precision and Directional Prompting)</u>

- **Desired Output Format**:
  Clearly specify the format or structure of the desired outcome. Precision and direction help in guiding the response towards a solution that fits your exact need.

Example: The result should be in a new column (D), with the bonus amount calculated for each employee. If there's no bonus, the cell should display $0.

- **Check for Accuracy (Directional Prompting)**:
  Ask for checks or validations in the solution, like testing on sample data to ensure it's correct.

Example: Please make sure that the solution works with sales amounts from $0 to $10,000, and test it on sample data to verify.

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6. Sample Data and Error Details

- **Sample Data (Optional)**:
  Providing a small sample dataset can clarify your problem. You can type out a few rows or reference cells that contain data.

Example:

Employee Name	Monthly Sales	Sales Date
Alice	$1,200	01/02/2023
Bob	$2,500	05/12/2023
Charlie	$7,500	08/23/2023

- **Error or Issue Faced**:
  If there's an error message or an unexpected result, include it to provide context (for CoT-style solutions).

Example: When using the formula =IF(B2>500, B2*0.05), it calculates the bonus for everyone, even those who have sales below $500.

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7. Version and Platform Information

- **Excel Version and Platform**:
  Mention the Excel version and platform (e.g., Excel 365, Excel 2019, Windows, Mac, or Web). Advanced features like dynamic arrays, XLOOKUP, or Power Query may depend on this.

Example: I'm using Excel 365 on Windows.

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8. [Explore Alternatives (ToT)]

- **Are there any alternative approaches you'd like to explore?**
  Exploring alternative solutions can lead to more efficient or creative approaches. You can ask for a Tree-of-Thought exploration of potential methods.

Example: Is there a way to automate this bonus calculation through VBA to avoid manual updating in the future? Also, is Power Query a better fit for cleaning and analyzing this data?

Common Pitfalls to Avoid.

1. **Over-reliance on specific functions:** Request alternative methods if your preferred function isn't ideal (e.g., "Is INDEX/MATCH better than VLOOKUP here?").

2. **Unclear goal setting:** Always ensure you articulate the expected outcome clearly (e.g., avoid vague requests like "help with a formula").

3. **Ignoring version limitations:** Be mindful of which Excel features are available in your version. Ask for alternatives if your version lacks certain functions.

4. **Not considering dynamic or future data changes:** If your data set or logic will change over time, ask for flexible, dynamic solutions.

A Prompt Example:

Problem: I need to calculate a tiered bonus structure based on monthly sales for each employee.

Dataset: Column A contains "Employee Name," Column B has "Monthly Sales," and Column C has the "Sales Date."

Goal: I need to calculate the bonus:

- 5% for sales up to $1,000

- 10% for sales between $1,000 and $5,000

- 15% for sales over $5,000

The bonus should only be calculated for sales in 2023, and sales under $500 should be excluded.

Tools: I believe an IF or nested IF function could work, but I'm unsure how to handle multiple conditions.

Expected Outcome: The result should appear in column D as the bonus amount, or $0 if no bonus applies.

Excel Version: I'm using Excel 365 on Windows.

Request: Could you use Chain-of-Thought reasoning to explain the steps and suggest alternative approaches using Tree-of-Thought for more efficient options?